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The Practice of Nursing Process and Associated Factors Among Nurses Working in Public Hospitals of Harari People National Regional State, Eastern Ethiopia: A Cross Sectional Study

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Abstract
Background: The nursing process is the framework for providing professional and quality nursing care. The practice of nursing process in part of Africa has not reached the standard that is set by the profession's regulatory body. The factors that influence nursing process practice need to be understood. The study aim to assess the practice of nursing process and associated factors among nurses working in public hospitals of Harari region. **Method:** Institutional based cross-sectional study was conducted from March – April 2015. Self-administered and structured questionnaire was used to collect data from 174 nurses. The data was entered using Epinfo version 7 then exported into SPSS version 20. In addition to descriptive statistics both bivariate and multivariate logistic regression model was fitted to identify possible factors associated with nursing process practice. Statistical significance was declared with AOR at 95% confidence interval (CI) and P-value of≤0.05. **Result:-**A total of 174 nurses were enrolled in the study making response rate of 98.3%. Almost half of respondents 85 (48.9%) were practiced nursing process. Negligent working environment (AOR: 0.30, [95% CI: (0.104 – 0.882)], nurses working on patient problem and seeing the outcome (AOR: 2.4, [95% CI: (1.101 – 5.181)], low access of training (AOR: 0.39, [95%CI: (0.19 – 0.79)], early discharge of patient (AOR= 2.59, [95% CI: (1.29 – 5.19)], and lack of knowledge (AOR= 0.036, [95% CI: (0.004 – 0.290)] were significantly associated with practice of nursing process. **Conclusion:** The practice of nursing process in the two facilities studied was suboptimal. Negligent working environment, working on patient problem and seeing the outcome, low access of training, early discharge of patient and low level of knowledge about nursing process were associated with nursing process practice. Nurses' patient care knowledge in nursing process practice need to be evaluated and monitored periodically in order to provide on service training.
Keywords: Nursing process, practice, Nurse, Knowledge, Attitude, Hospital, Ethiopia

Introduction

The nursing process is a method used by nurses in solving patient problems in professional practice. It is an outgrowth of the scientific method and can be used as a framework for approaching almost any problem. "The nursing process provides the basis for critical thinking in nursing"[1]. The theory of the nursing process has been largely accepted by nurses since 1967. Lydia Hall was the first person to introduce the concept of nursing processes into nursing in 1955 while addressing a group of nurses in New Jersey [2].The nursing process consisted, initially, of three stages, and subsequently, four stages. Finally, between the years 1973-1975, the concept of nursing diagnosis was agreed, and an initial list of such diagnoses was published by NANDA-I [3]. More recently, the process has been defined as a systematic and dynamic way to deliver nursing care, operating through five interrelated steps: assessment, diagnosis, planning, implementation and evaluation [4].

At present, it is consensual that the nursing process in Brazil, USA and Canada has developed tools, computerized or not, to implement this methodology in practice. Data reported at the beginning of the 1990's in Europe showed concerns with the validation of tools to establish customized nursing care. Electronic records may provide a significant contribution to the successful implementation of the nursing process, particularly if all stages are connected [5]. A retrospective study conducted in Sweden 98% of respondents used standardized nursing care plan and practice nursing process in their everyday work [6]. In a medium-sized general hospital in Brazil, almost all of nurses practice nursing process and, in university of Brazil reported that 54.6% of respondents often implement nursing process [7,8]. In central Taiwan revealed that nurses generally followed the nursing process and charting sequence to complete care plans [9]. In Nigeria indicating the nurses implement the nursing process 70 (64.22%) [10].

Similarly research conducted in Ethiopia on the implementation of nursing process among nurses, in Addis Ababa selected government hospitals were 100(52.1%) of nurses were practiced nursing process, in Arbaminch General Hospital 32(32.7%), in Mekele Zone Hospital all of the 200 respondents reported that they did not apply any of the nursing process steps. Study from Debremarkos and Finoteselam Hospitals revealed that about 37.1% of nurses practiced nursing process [11–14]. Similarly, retrospective study in Brazil has shown that there are barriers faced daily by the nurses, including lack of time, excessive demands and lack of preparedness

for implementation of nursing process [15].

Additionally a descriptive survey which examined factors that affect the use of nursing process in a mission, general and primary health institutions in Ogbomoso town in South West Nigeria suggested that "most nurses are resistant to change, professional development and advancement. Some nurses tend to hold on the previous knowledge and skills without making efforts to improve and maintain new skills. Many nurses are not willing to accept the challenges of staying abreast with education and development of new skills in nursing practice"[16].

In Harari People National Regional State Health Bureau in collaboration with Haramaya University Collage of Health and Medical Science and Department of Nursing give training for BSc nurses to implement in public hospitals. There are no studies conducted on the practice of nursing process and associated factors among nurses who works at Harari People National Regional State public hospitals. Therefore, this study is designed to investigate the practice of nursing process and associated factors among nurses who work at in Harari People National Regional State public governmental hospitals.

Method and Materials

Study Design and setting

An institutional based cross-sectional study design was conducted from March to April 2015. The study was conducted in public hospitals of Harari People National Regional State. Harari People National Regional State, is located 525 km away from the capital city from Addis Ababa, Eastern Ethiopia. There are 2 military, 2 public and 2 private hospitals, 8 health centers (4 urban and 4 rural), nineteen health post, ten non-profit private clinics in the region. Among them Hiwot Fana University Specialized Teaching Hospital(HUSTH) and Jegol Hospital provides multi-dimensional aspects of care to patients who need highly qualified /specialized health care services. HUSTH is a teaching university hospital of Haramaya University with a total of 161 beds and having medical, surgical, gynecology, pediatrics, psychiatric wards. Jugel Hospital is a regional referral hospital of the Harari National Regional State with 95 beds and medical, surgical and gynecology wards.

Population and sample selection

All BSc nurses who have been working in public hospitals of Harari People National Regional State were source population. The study Population were BSc nurses who have been working in public hospitals of Harari People National Regional State during the data collection period. All BSc nurses who have been working in public hospitals of Harari People National Regional State were included in the study and BSc nurses who were critically sick and working for free service were excluded from the study. Sample size was determined by single population sample size determination formula taking Z= standard normal distribution (Z=1.96) with confidence interval of 95% and prevalence/ population proportion (p=52.1%) obtained from a similar study conducted in Addis Ababa University d= is a tolerable margin of error (d=0.05). The final sample size calculated was 177. The study participants were selected from the two facilities by systematic random sampling after assigning proportion for both hospitals.

Variables and Measurement

Dependent variable was practice of nursing process and independent variables were; knowledge of nurses, attitude of nurses, socio-demographic variable(sex, age, marital status, number of children, monthly income), patient related factor (patient turnover, professional) and work place related factors(years of experience, work load, work hours, nurses turnover and equipment availability).

Operational Definition

Nursing process practice: If nurses perform nursing process using the five steps of nursing process was taken as nursing process practiced, and those who performed less than five steps of nursing process was taken as nursing process not practiced.

Knowledgeable Nurses:-Nurses awareness about nursing process. Highly knowledgeable nurses are those answers ≥ 80% of the questions, moderately knowledgeable nurses are those answers in between 55-79.9%, and low knowledgeable nurses those scored < 55 % [12].

Attitude: Study participants who have scored above the mean score (≥18) of the attitude questions were categorized as favorable attitude (good attitude), and those who have scored less than the mean score (< 18) of the attitude questions were categorized as unfavorable attitude (poor attitude).

Data Collection Tools and procedure

Data was collected by using structured self- administered questionnaire. The structured English version questionnaire which is adapted from previous study [10, 14] was modified and added some questions appropriate to my study. It includes six main parts about nurses' socio demographics, knowledge of nursing

process, attitude of nurses, patient related, professional and work place related and practice of nursing process questions. The data was collected by using a structured and pre-tested self-administered questionnaire. Eight data collectors from graduating nurse students and four supervisors conducted data collection from March-April/2015. Data collectors and supervisors were given one day intensive training on the objective, the content of the instrument and data collection procedure.

Data Processing and Analysis

All the questionnaires were checked visually, cleared, coded and entered into the computer using EPinfo software version 7 and exported into Statistical Package for Social Science (SPSS) Version 20 software for further analysis. Binary logistic regression was run to identify statistically significant independent variables. Both bivariate and multivariate logistic regression model were fitted to select associated factors and to control cofounding respectively. The backward stepwise method was used during multivariate logistic regression analysis. The result of the study was presented in the form of tables, figures and text using frequencies and summary statistics such as mean, median, interquartile range and percentage to describe the study population in relation to relevant variables. The degree of association between independent and dependent variables were assessed using odds ratio with 95% confidence interval and p-value < 0.05 in order to test statistical significance.

Result

Socio demographic characteristics of study participant

A total of 177 sample was estimated to be enrolled in the study, of which 174 nurses gave complete response making response rate of 98.3%. More than half 109 (62.6%) were male. The age of the respondents were within the range of 22 and 55 years with median age of 24 (Inter quartile range = 24 – 30) years. Nearly two third of them 122 (64.4%) were Amhara in ethnicity, and 106 (60.9%) were single marital status. Among the respondents greater than two third of them 142 (81.6%) have less than four family, and nearly half 81 (46.6%) of the respondents monthly income between (2000 – 2999 birr) (**Table 1**).

Table 1:- Socio-demographic characteristics of study participant working in public hospitals of Harari People National Regional State, East Ethiopia, 2015(n=174)

Variables		Frequency	Percentage
Sex	Male	109	62.6
	Female	65	37.4
Age (years)	20 – 24	94	54
	25 – 29	36	20.7
	30 – 34	15	8.6
	≥ 35	29	16.7
Ethnicity	Amhara	112	64.4
	Oromo	28	16.1
	Gurage	14	8
	Tigraye	12	6.9
	Aderae	7	4
	Konso	1	0.6
Marital status	Single	106	60.9
	Married	63	36.2
	Divorced	5	2.9
Number of family	1 – 2	99	56.9
	3 – 4	43	24.7
	≥ 5	32	18.4
Monthly income (Eth Birr)	2000 – 2999	81	46.5
	3000 – 3999	64	36.8
	4000 – 4999	20	11.5
	≥ 5000	9	5.2

Professional related characteristics affecting practice of nursing process

Regarding work experience of nurses varies from 7 month to 40 years but greater than half 101 (58.8%) lies on less than 2 years in median years of 7 month (IQR= 7 month – 6years) and the data shows, it is not normal distribution. One hundred fifty nine (91.4%) of the respondents had no misbehavior record on their personal file while 15(8.6%) had misbehavior record on the personal file. Regarding on methods used to make work visible 104 (59.8%) of the respondents were recording every activities what performed to make visible their nursing related activities. In this study, forty six (26.5%) of respondents were committed error on practice of nursing

process (**Table 2**).

Table 2:- Professional related characteristics of practice of nursing process among nurses working in public hospitals of Harari People National Regional State, East Ethiopia, 2015 (n=174)

Variables			Freq	Percentage
Working experience in years	< 2		101	58
	2 – 5		21	12.1
	≥ 6		52	29.9
Misbehavior recorded in personal file	Yes		15	8.6
	No		159	91.4
Methods used to make work visible	Recording every activities what perform	Yes	104	59.8
		No	70	40.2
	Using nursing process	Yes	77	44.3
		No	97	55.7
	Working on patient problem	Yes	53	30.5
		No	144	69.5
	Reporting to supervisors	Yes	30	17.2
		No	121	82.8
	Nothing used	Yes	4	2.3
		No	170	97.7
Clinical error	Committed	Knowledge error	25	14.4
		Executive error	12	6.9
		Slip/slap	9	5.2
	Not committed		128	73.5

Knowledge assessment

Regarding the knowledge assessment 47 (27%) were highly knowledgeable, 106 (60.9%) were moderately knowledgeable and 21 (12.1%) lack knowledge. But for the purpose of analysis and we believe that there is no as such difference between the highly and moderately knowledgeable. Therefore the two group are combined together and have two category only, Knowledgeable and not knowledgeable.

Regarding the knowledge assessment of the nurses, the majority of respondents 154(88.5%) respond the correct answer on component of nursing question (**Table 3**)

Table: 3 Percentage distribution of nurses' knowledge about nursing process among nurses in public hospitals of Harari People National Regional State, East Ethiopia, 2015 (n=174)

Variables	Incorrect Answer No (%)	Correct Answer No (%)	Total No (%)
The first step on your nursing process	22 (12.6%)	152 (87.4%)	174 (100%)
The primary aim of Gordon approach	47 (27%)	127 (73%)	174 (100%)
Select from the given option that is not a component of nursing process.	20 (11.5%)	154 (88.5%)	174 (100%)
Your appropriate nursing diagnosis for a patient with Hypertension to prevent future complication	45 (25.9%)	129 (74.1%)	174 (100%)
What makes nursing diagnosis different from medical diagnosis	47 (27%)	127 (73%)	174 (100%)
In your organization who is mandatory for the better accomplishment of nursing process	149 (85.6%)	25 (14.4%)	174 (100%)
Variables	**Correct Answer No (%)**	**Incorrect Answer No (%)**	**Total No (%)**
Select your role during implementation phase of your nursing process	72 (41.4%)	102 (58.6%)	174 (100%)
Select that may be not a guide for your nursing process evaluation	54 (31%)	120 (69%)	174 (100%)
Fluid volume deficits related to unresolved vomiting & diarrhea as evidenced by dry oral mucosa and sunken eyes. From the given nursing diagnosis select the etiology from the given options	66 (37.9%)	108 (62.1%)	174 (100%)

Nurse Attitude and Practice of nursing process

Regarding nurses' attitude towards the nursing process 92 (52.9%) were favorable attitude and 82 (47.1%) were unfavorable attitude. Regarding the practice of nursing process question assessment was performed in greater than two third 144 (82.8%) of cases; diagnosis was made in two third 136 (78.2%) of cases; planning was made in 130 (74.7%) of cases; implementation was made greater than half 107 (61.5%) of cases and evaluation was made almost half 85 (48.9%). In this research nursing process practice: considered if nurses perform nursing

process using the five steps of nursing process. The prevalence of practice of Nursing Process(NP) almost half 85 (48.9%) of respondents have practiced nursing process while 89 (51.1%) were not practiced nursing process (**Figure 1**)

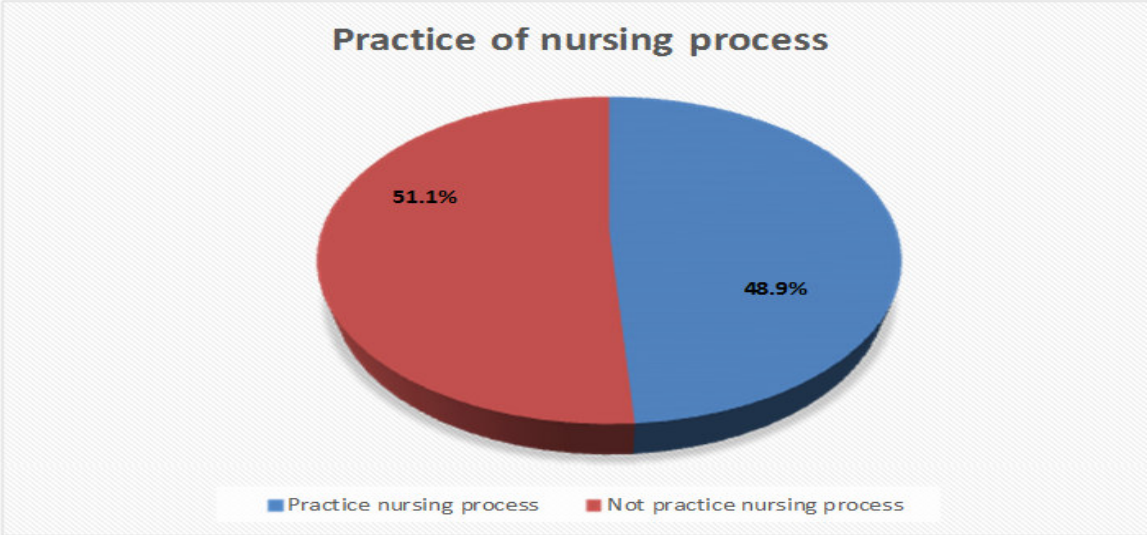

Figure 1:- Practice of nursing process among nurses working in public hospitals of Harari People National Regional state, East Ethiopia, 2015

Patient related Factors Affecting the practice of Nursing Process

Poor understanding of modern medicine and the principle of nursing process, lower economic status of patients, long waiting time to get the service and discrimination were patient related factors that had a role for practice of nursing process because the practice of designing nursing care plan needs hospital stay and follow up (**Table 4**).

Table 4:-Patient related characteristics of practice of nursing process among nurses working in public hospitals of Harari People National Regional State, East Ethiopia, 2015(n=174)

Variables			Frequency	Percentage
Reason of patient turnover	Poor economic status	Yes	87	50
		No	87	50
	Long waiting time to get the service	Yes	84	48.3
		No	90	51.7
	Miss-understanding of modern medicine	Yes	44	25.3
		No	130	74.7
	Discrimination	Yes	5	2.9
		No	169	97.1
Influence of patient turnover on nursing care	Discharge before completing planned interventions	Yes	81	46.6
		No	93	53.4
	Not cooperative for their care	Yes	63	36.2
		No	111	63.8
	Lack of equipment	Yes	43	24.7
		No	131	75.3
	Present with complicated problems	Yes	37	21.3
		No	137	78.7

Work place related characteristics affecting practice of nursing process

Greater than two third 147 (84.5%) nurses were respond as that they have no necessary equipment for patient care and almost one third 27 (15.5%) nurses were respond as all necessary equipment's were available in the organization. Regarding working hours nearly all, 158 (90.8%) nurses were worked ≤ 8 hours, and 62 (32.6%) respondents were providing care for (6 – 10) patients per day. One hundred fifty nine (91.4%) of the respondents had no misbehavior record on their personal file while 15 (8.6%) had misbehavior record.

According to the current study, 80 (46%) of respondents had greatest strain in their working time due to unsympathetic manager, 50 (28.7%) of them from coworkers doesn't do their task, 43 (24.7%) harassment from co-workers, 42 (24.1%) misconception of physicians and 8 (4.6%) due to language barrier. This study also showed that, 142 (81.6%) of the respondents were dissatisfied with their job and nearly half 67 (47.2%) were due

to nursing profession, and other professional and work related factors (**Table 5**).

Table 5:- Work place related characteristics of practice of nursing process among nurses working in public hospitals of Harari People National Regional State, East Ethiopia, 2015(n=174)

Variables				Frequency	Percentage
Daily working hours	≤ 8			158	90.8
	> 8			16	9.2
Number of patients get care per day by a nurse	< 5			60	34.5
	5 – 10			62	35.6
	>10			52	29.9
Overtime work	Yes	With payment		110	63.3
		Without payment		13	7.5
	No			51	29.3
Satisfied with payment	Yes			4	2.3
	No			106	60.9
The greatest anxiety/ strain on nurses work place	Unsympathetic manager		Yes	80	46
			No	90	54
	coworkers doesn't do their task		Yes	50	28.7
			No	124	71.3
	Harassing coworker		Yes	43	24.7
			No	131	75.3
	Misconception of physicians		Yes	42	24.1
			No	132	75.9
	Language barrier		Yes	8	4.6
			No	166	95.4
Is there dissatisfying aspect of your job	Yes			142	81.6
	No			32	18.4
Dissatisfying aspect of nursing	Rules being made up without staff		Yes	63	36.2
			No	111	63.8
	Useless paper work		Yes	51	29.3
			No	123	70.7
	Having care for so many patients		Yes	28	16.1
			No	146	83.9
	The new report system		Yes	23	13.2
			No	151	86.8
	Poor management of hospital		Yes	24	13.8
			No	150	86.2
Dissatisfied due to nursing profession	Yes			67	38.5
	No			75	43.1
Work place	Disorganized		Yes	94	54
			No	80	46
	Stressful		Yes	49	28.2
			No	125	71.8
	Negligent		Yes	25	14.4
			No	149	85.6
	Very well		Yes	25	14.4
			No	149	85.6
Oriented while joining the current organization	Yes			44	25.3
	No			130	74.7
Effect of staff nurse turnover	Disorganized service delivery		Yes	110	63.2
			No	64	36.8
	Decrease spread of organizational knowledge		Yes	58	33.3
			No	116	66.7
	Deceased productivity		Yes	42	24.1
			No	132	75.9
Causes of employee turnover	Low access of short/long training		Yes	75	43.1
			No	99	56.9
	Due to NGO's attractive payment		Yes	60	34.5
			No	114	65.5
	Less/no recognition for the work done		Yes	53	30.5
			No	121	69.5
	Job and employee skill mismatch		Yes	49	28.2
			No	125	71.8

Factors associated with nursing process

In the bivariate analysis of logistic regression, six variables such as negligent work place, working on patient problem used to make work visible, low access of short/long term training and less or no recognition for the work done as causes of employee turnover, patient discharge before completing planned intervention and knowledge of nurses were found to have statistically significantly association with the practice of nursing process. Characteristics such as, work place related factor, nurses who were working in a negligent working environment were 70% less likely to practice nursing process as compared to those working in not negligent working environment (AOR: 0.30, [95% CI: (0.104 – 0.882)]. Nurses who were working on patient problem and seeing the outcome were 2.4 times more likely to practice nursing process than nurses not working on patient problem (AOR: 2.4, [95% CI: (1.101 – 5.181)]. Nurses who had low access of short and long term training were 61% less likely to practice nursing process as compared to those who had high access of short and long term training (AOR: 0.39, [95%CI: (0.19 – 0.79)]. The study also revealed that nursing process was practiced 3 times more likely for patients who didn't discharged before completing planned intervention as compared to for patients discharged early before completing the planned intervention(AOR= 2.59, [95% CI: (1.29 – 5.19)]. Nurses who have less knowledge of nursing process were 96% less likely to practice nursing process as compared to their counterparts (AOR= 0.04, [95% CI: (0.004 – 0.290)] (**Table 6**).

Table 6:- Bivariate and multivariate logistic regression analysis of factors associated for the practice of nursing process among nurses working in public hospitals of Harari People National Regional State, East Ethiopia, 2015(n=174)

Variables			Practice of nursing process		COR (95% CI)	AOR (95% CI)
			Practice	Not practice		
			n (%)	n (%)		
Workplace	Stressful	Yes	23(27.1)	26(29.2)	0.89(0.46 – 1.74)	
		No	62(72.9)	63(70.8)	1.00	
	Negligent	Yes	16(24)	19(76)	0.28(0.11 – 0.74)	**0.30(0.104 – 0.88)***
		No	79(53)	60(47)	1.00	1.00
	Disorganized	Yes	50(58.8)	35(41.2)	1.46(0.80 – 2.66)	
		No	44(49.4)	45(50.6)	1.00	
	Very well	Yes	15(17.6)	70(82.4)	1.69(0.71 – 4.01)	
		No	10(11.2)	79(88.8))	1.00	
Methods used to make work visible	Recording activities	Yes	53(62.4)	32(37.6)	1.23(0.67 – 2.26)	
		No	51(57.3)	38(42.7)	1.00	
	Using nursing process	Yes	40(47.1)	45(52.9)	1.24(0.68 – 2.27)	
		No	37(41.6)	52(58.4)	1.00	
	Working on patient problem	Yes	32(60.4)	21(39.6)	1.96(1.01 – 3.77)	**2.39(1.11 – 5.18)***
		No	53(43.8)	68(56.2)	1.00	1.00
	Reporting to supervisors	Yes	15(17.6)	70(82.4)	1.05(0.48 – 2.32)	
		No	15(16.9)	74(83.1)	1.00	
Causes of employee turnover	Job and employee skill mismatch	Yes	25(29.4)	60(70.6)	1.13(0.58 – 2.18)	
		No	24(27)	65(73)	1.00	
	Due to NGO's attractive payment	Yes	31(36.5)	54(63.5)	1.18(0.63 – 2.22)	
		No	29(32.6)	60(67.4)	1.00	
	Low access of short/long training	Yes	28(37.3)	47(62.7)	0.44(0.24 – 0.81)	**0.39(0.19 – 0.79)***
		No	57(57.6)	42(42.4)	1.00	1.00
	Less/No recognition for the work done	Yes	34(64.2)	19(35.8)	2.46(1.26 – 4.79)	1.66(0.75 – 3.69)
		No	51(42.1)	70(57.9)	1.00	1.00
Influence of patient turnover on nursing care	Patient Discharge before completing planned intervention	Yes	48(59.3)	33(40.7)	2.21(1.19 – 4.04)	**2.59(1.29 – 5.19)***
		No	37(39.8)	56(60.2)	1.00	1.00
	Patient not cooperative for their care	Yes	26(30.6)	59(69.4)	0.62(0.33 – 1.16)	
		No	37(41.6)	52(58.4)	1.00	
	Lack of equipment	Yes	20(23.5)	65(76.5)	0.88(0.44 – 1.76)	
		No	23(25.8)	66(74.2)	1.00	
	Present with complicated problems	Yes	18(21.2)	67(78.8)	0.99(0.48 – 2.05)	
		No	19(21.3)	70(78.7)	1.00	
Knowledge	Not Knowledgeable		10(4.8)	20(95.2)	0.04(0.01 – 0.31)	**0.036(0.004 0.290)***
	Knowledgeable		74(54.9)	69(45.1)	1.00	1.00

Note* Significant at p-value < 0.05

Discussion

This study tried to assess factors affecting practice of nursing process among nurses who are working in public hospitals of Harari People National Regional State. Among 174 nurses working in public hospitals of HPNRS, 48.9% of them practiced nursing process while 51.1% of them were not practiced nursing process. This finding is in line with the study finding in Addis Ababa among the selected governmental hospitals that shows 52.1% implementation of nursing process by nursing staff [12]. On the other hand this finding is higher than the finding of the study conducted in Arbaminch General Hospital which reported 32.7% nursing process practice [13]. It also higher than the finding of the study conducted in Mekelle Zone Hospital [11]. The finding of a study conducted in Debremarkos and Finoteselam Hospitals was lower than what our finding revealed (37.1%) [14]. The variation may be justified as training availability and follow up on practice of nursing process from university hospitals in which many of nurses are believed to have better knowledge to practice nursing process.

This finding is lower than the findings of study conducted in Nigeria indicating that 64.22% respondents often implement nursing process in their work pace [10]. It varied with a finding of a study conducted in Brazil assessment was performed in 98.7% of cases; diagnosis was made in 90% of cases; and planning was made in 74.8% of cases [7]. It also inconsistent with a finding of a study conducted in central Taiwan which revealed that nurses nursing process and charting sequence to complete care plans [9]. It also not agreement with the finding of study conducted in Sweden that shows 98% of the respondents used standardized nursing care plan in their everyday work [6]. This might be due to difference between the two countries health belief of patients, organizational facilities and income of patient that facilitate nursing process. Additional possible explanation may be due to difference in the study sites, the progress of the nursing profession, resource and technological variations, government commitment, level of nursing practice, training approaches and lack of clear nursing standard to practice nursing process.

From the total respondent nearly half (46%) of respondents were greatest strain in working time due to unsympathetic manager, 28.7% were from due to coworkers doesn't do their task, 24.7% harassment from co-workers, 24.1% misconception of physicians and 4.6% were due to language barrier. This finding is different from the findings of study conducted in Arbaminch General Hospital such as 42.85% of respondents were anxious in working time from high patient flow, 25.51% were because of every one does not do their job, 9.18% were from abusive family, 9.18% were from rude physicians, 3.06% were from harassing co-workers, 2.02% were from demanding patients, and 11.22% were from unsympathetic managers. It also differ from research finding in Addis Ababa indicated that 28.1% of respondents have had anxiety from large nurse to patient ratio, rude physician challenges and unsympathetic manager [13]. The variation may be due to different study area, in this study the health care and health institution coverage greater than 90%, and organizational structure and management system of the hospitals also different.

Eighty one (46.6%) of respondents were challenged to provide their nursing care due to patient discharge before completing planned interventions. This shows that there is significant difference between the studies made in Arbaminch 35.7% of respondents were challenged to provide their nursing care due to patients inability to collect the required material for care provision [13]. But research conducted in Addis Ababa 40.6% of respondents reported that they were not able to complete the nursing care what they were planned because of early discharge of patients it is almost similar to this findings [12].

One hundred fifty-three (87.7%) of the respondents were knowledgeable and 14.4% had not knowledgeable. This study finding higher than the findings of study conducted in Mekelle Zone Hospitals 90% of them have poor knowledge while 10% of them have fair knowledge [11]. It also inconsistent with a finding of a study conducted in Arbaminch 23.34% of respondents were highly knowledgeable and 44.9% were moderately knowledgeable while 31(31.63%) had not knowledgeable [13]. It also varies with a finding of a study conducted in Debremarkos and Finoteselam 58.1% were highly knowledgeable, 30.6% were moderately knowledgeable and 11.3% were under the group of low knowledgeable category and in a study from Addis Ababa 16.1% of respondents were highly knowledgeable and 52.6% were moderately knowledgeable while 31.2% had poor knowledge and among those implemented nursing process only four nurses were highly knowledgeable and equal number of respondents 25% were moderately and poorly knowledgeable [12,14]. The variation may be due to difference in the study sites, greater than 50% of the respondents were nearly graduate and almost all of respondents were from university hospitals in which many of nurses are believed to have better knowledge to practice nursing process.

This study finding is consistent with another study done in Nigeria Neuro Psychiatric Hospital Rumuigbo have showed that 92% respondents have good knowledge, while only 8 % respondents exhibited poor knowledge of the nursing process [20]. Similarly this is consistent with study done in Saudi Arabia nurses 94.6% indicated that they had good knowledge of the nursing process and confidence in ability to apply it (79.8%) [19].

Nurse who were working in a negligent working environment were 70% less likely to practice nursing process than those working in not negligent working environment. Stressful working environment had no significant association with practice of nursing process. This study finding inconsistent with the findings of

Addis Ababa and Arbamench in the characteristics of work place, on both studies stressful working environment were statically significant [12,13]. The possible explanation might be this study area failure to ensure that the work environment, tools and equipment's, and resulting in staff nurse turnover and low quality patient care.

Nurses who were working on patient problem and seeing the outcome to make work place visible were 2.4 times more likely to practice nursing process than nurses not working on patient problem. Working on patient problem and seeing the outcome have positive association on practice of nursing process. It shows working on patient problem and seeing the outcome is important for patient better improvement from illness and decreasing day of hospital stay. Nurses who were low access of short and long term training as causes of employee turnover were nearly 61% less likely to practice nursing process than high access of short and long term training. This work related factors were negatively associated with practice of nursing process. It shows high access of training is important for retention of experienced staff. Nurses who have less knowledge of nursing process were 96% less likely to practice nursing process as compared to their counterparts. This finding in line with finding on Debremarkos and Finoteselam [14] and Nigeria Hospitals [20]. It shows knowledge is the most important and a prerequisite to practice NP. As limitation, the study didn't included nurses working in private and other government hospitals. The questionnaire was prone to social desirability bias; because everyone does not want expose his/ her weaknesses. The mismatch in the result of nurses' knowledge and their practice was a particular evidence for this bias.

Conclusion

The study indicated that nursing process practice was low among nurses working in public hospitals of Harari People National Regional State, East Ethiopia. Negligent work place, working on patient problem used to make work visible, low access of short/long term training as causes of employee turnover, patient discharge before completing planned intervention in hospitals for giving nursing care and low level of knowledge about nursing process were significantly associated with the practice of nursing process. Working on patient problem used to make work visible and patient discharge before completing planned intervention in hospitals for giving nursing care was highly affecting practice of nursing process.

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